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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,084	04/06/2005	Michael Ryan	Mo-7278US/MD-02	8710
34947	7590	09/13/2007		
LANXESS CORPORATION 111 RIDC PARK WEST DRIVE PITTSBURGH, PA 15275-1112			EXAMINER CORDRAY, DENNIS R	
			ART UNIT 1731	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,084	RYAN ET AL.	
	Examiner	Art Unit	
	Dennis Cordray	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 1, 9, 14, 21 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/27/05, 5/24/05</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

Claims 1, 9, 14, 21 and 24 are objected to because of the following informalities:

In Claims 1 and 24, the phrase "a wet strength agent of at least about five percent the dry strength" appears to be missing the word "of" between "percent" and "the".

Claim 21 uses a singular verb "is" with a plural subject in line 4 of the claim.

Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 9 recites the same limitation as part (c) of Claim 1, from which it depends.

Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 14 recites that the strength regions are located on a second surface of the fibrous substrate. Claim 14 depends from Claim 13, which recites that the strength regions are located on a first surface of the fibrous substrate. A second surface is not a subset of a first surface, thus Claim 14 cannot impose a further limitation on Claim 13.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-19 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1-3, 8, 15, 18-19 and 22-24 recite a reacted cationic or nonionic strength agent, a reacted strength reducing material or a reacted anionic polyacrylamide but fail to recite what is meant by "reacted." The instant Specification describes reacting a dicarboxylic acid with a polyalkylene polyamine and further reacting the product with epichlorohydrin (p 4, lines 10-17). On p 55, lines 1-2, polyvinylamides suitable for reaction with glyoxal are disclosed. The Hoffman reaction is mentioned on line 13 of p 5. Other reactions are disclosed (p 5, lines 23-38). Page 8, lines 2-5 disclose that the reacted cationic strength agent functions as a strength-imparting polymeric network. None of these reactions clarifies the cationic or nonionic strength agent or a reacted anionic polyacrylamide recited in the claims and it is not clear which, if any, of the reactions disclosed are intended to be embodied in the claims.

Claim 3 recites that the dispersability regions have a reacted strength agent in an amount relatively less than the reacted strength agents in the strength regions. It is not clear if the reacted strength agent in the dispersability regions refers to the same reacted strength agent in the strength regions or if a different reacted strength agent is applied.

Claim 4 recites a "grid-shaped pattern of linearly shaped regions." It is not clear whether the linearly shaped regions are lines, elongated rectangles, bars or stripes, or some other shape. The Specification fails to define what is meant by linearly shaped

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regions. For the purpose of this examination, lines or any elongated rectangular shape will be assumed, including bars or stripes.

Claim 6 recites "the second surface of the fibrous substrate" in Claim 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites a reacted strength agent. It is not clear if the reacted strength agent in the dispersability regions refers to the same reacted strength agent in Claim 1 or if a different reacted strength agent is applied.

Claim 13 recites that the strength regions are located on a first surface of the fibrous substrate. Claim 14 recites that the strength regions are located on a second surface of the fibrous substrate. Since Claim 14 depends from Claim 13, it is not clear if the intention is to locate strength regions on both a first and a second surface of the substrate or if Claims 13 and 14 recite alternative locations for the strength regions.

Claim 16 recites "the cationic strength agent" and "the nonionic strength agent" in Claim 15, which depends from Claim 1. There is insufficient antecedent basis for these limitations in the claim.

Claim 18 recites that at least one dispersibility region has a reacted strength agent in an amount relatively less than the reacted strength agent in the at least one strength region. It is not clear if the reacted strength agent in the dispersibility region refers to the same reacted strength agent in the strength region or if a different reacted strength agent is applied.

Claim 19 recites that the strength regions encompass an area that is less than about 50% of the area of the first surface. It is not clear if the intention is that the

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strength regions on all surfaces encompass an area that is less than about 50% of the area of the first surface or if the strength regions are located on the first surface and encompass an area that is less than about 50% of the area of the first surface.

Claim 22 recites that "the strength region is a reacted cationic or nonionic strength agent." It is not clear how the strength region can be the strength agent. It is assumed for the purpose of this examination that the strength region comprises the strength agent.

Claim 23 recites in feature (b) "a plurality of strength regions throughout at least one fibrous substrate." It is not clear if the fibrous substrate is the same fibrous substrate as the "at least one fibrous substrate" recited in feature (a) or a different fibrous substrate.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 9-15 and 18-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Costanza et al (3707430) as evidenced by Batra et al (6162327).

Costanza et al discloses a paper product comprising a scrim or moisture permeable layer of paper or biodegradable fibers (first fibrous substrate) and an inner layer of water-dispersible absorbent material (second fibrous substrate). The product has a series of channels comprising a selectively soluble resin or binder (strength regions) that bonds the paper fibers to each other and binds the scrim or moisture permeable layer to the absorbent material. (Abs; col 1, line 68 to col 2, line 13; col 6, lines 69-71). Thus, paper products having a strength agent in a pattern on a first surface, on a second surface between first and second fibrous substrates and in multiple areas throughout the first fibrous structure are disclosed. The regions without binders are dispersible regions, having no binder to hold the fibers together.

The binder is applied by cameo or intaglio printing, in which the binder is pressed in to the scrim or moisture permeable layer in a nip between a pressure roll and a printing roll having projecting or recessed binder-applying portions. The binder is applied in a pattern such as a series of criss-crossing lines forming a grid. The surface area required to be covered by the adhesive pattern can be determined through routine experimentation (col 5, lines 9-52). The dry break strength of the scrim or moisture permeable layer is at least 2.0 pounds, while the wet strength is at least 0.25 pounds, thus the relative wet to dry strength overlays the claimed value (col 3, lines 34-45).

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Examples of suitable binders include copolymers of carboxylic acids (anionic strength agents) or aminoacrylates, alkyl acrylates, polyvinylpyridines (nonionic to cationic strength agents) (col 4, lines 21-46).

The paper products, after use, are placed in a regular toilet and suitable degrading agents added thereto. The degrading agents cause the binder to degrade and the products can be dispersed by the act of flushing (col 7, lines 4-7 and 25-33). The product, when wetted in use or, alternatively, when treated by the degrading agent, comprises a strength reducing material. While not explicitly disclosed, it would have been obvious to one of ordinary skill in the art at the time of the invention that a time or greater than 1 second is required to add the degrading agent, degrade the binder and disperse the product. Single- or multi-layered tissues and towels are typical products made using dispersible fibrous webs and would have been obvious to those of ordinary skill in the art.

The claimed weight of the webs, while not explicitly disclosed by Costanza et al, is a typical range for tissue and towel products known in the art and would have been obvious to one of ordinary skill in the art (if evidence is needed, see Batra et al, cols 17-20, Table 1, which lists the basis weight of commercially available tissue products at the time of the invention).

Claims 1-2, 4-5, 9-13 and 15-21 are rejected under 35 U.S.C. 103(a) as unpatentable over Sheppard et al (3702610) in view of the instant disclosure or Orarian et al (6017418) and evidenced by Drelich et al (3865775).

Sheppard et al discloses a paper product comprising a fibrous substrate (wrapper) having a spaced pattern of water-dispersible adhesive or binder (strength agents), thus creating regions comprising a cationic or nonionic strength agent and dispersibility regions (regions without the strength agent). After a short time of immersion in water, the binder loses its binding power thus permitting the web to disintegrate. The product treated with water, either wetted in use or during disposal, comprises a strength reducing material (water). The webs weigh about 14 g/sq. yard, or 15 gsm. The binder is printed in a grid consisting of two sets of parallel lines extending diagonally across the web at 45° in both directions and intersecting each other to provide a closed diamond pattern. The lines are about 1/16" wide and spaced about 1/4" apart, thus cover about 25% of the web's surface (Abs; col 2, lines 3-20; col 3, lines 54-61). Other patterns are disclosed, such as wavy lines that are transversely or diagonally disposed. After being printed on the surface, the binder is inherently adjacent to a first surface.

The wrapper is wrapped around an absorbent pad made up from layers of cellulose wadding (second fibrous substrate) (col 2, lines 35-40), thus a multi-layered product is disclosed. Each layer inherently possesses at least two surfaces (top and bottom surfaces, inner and outer surfaces, etc). The adhesive comprises a colored dye to indicate dissolution of the adhesive in water. When the product is placed in the water in a toilet bowl for 30 seconds, the color fades to indicate that the adhesive has softened or dissolved. The product then breaks up or disintegrates upon flushing, thus is dispersible in a time greater than one second (col 1, lines 43-68; col 2, lines 28-34

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and 41-59; col 3, lines 58-63). A paper product inherently has some dry strength or it could not be made in the first place on any kind of papermaking apparatus and will immediately disintegrate in any position other than laying flat and motionless.

Although an interlocking pattern of serpentine lines is not explicitly disclosed, such a pattern would have been readily envisioned, and therefore obvious, to one of ordinary skill in the art. Alternatively, Drelich et al teaches that well known printed bonding patterns applied to flushable fibrous webs include interconnecting or interlocking grids comprising straight or wavy lines extending transversely or diagonally across the webs and additionally, if desired, along the web (Abs; col 2, lines 24-30 and 42-46; col 17, lines 15-18).

Sheppard et al does not disclose the claimed strength agents or the wet strength of the paper product.

Sheppard et al discloses an example wherein partially hydrolyzed polyvinyl alcohol (a nonionic binder) is used as the binder, but teaches that other water-soluble or water-dispersible adhesives can be used as well, including polyvinyl methylether, glycol, cellulose, cellulose glycolate, methyl cellulose and the like (col 2, lines 23-25; col 3, lines 47-52).

The instant disclosure teaches that cationic and nonionic strength agents, such as cationic and nonionic glyoxylated polyacrylamides, polymeric amine-epichlorohydrin resins, polyethyleneimines, melamine formaldehydes, urea formaldehydes, dialdehyde starches, glyoxal, polvinyl amines, and vinyl amine copolymers are known in the art (p 3, line 28 to p 4, line 5). Alternatively, Orarian et al discloses single- or multi-ply fibrous

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absorbent paper products in the form of napkin, towel, bathroom tissue or facial tissue (Abs). As a bathroom tissue, the paper product is inherently water dispersible. Orarian et al discloses the claimed polymers for use as temporary wet strength agents (col 16, lines 35-44; col 18, lines 15-26).

Orarian et al also discloses adding softening agents to papermaking fibers to interfere with the natural fiber-to-fiber bonding (strength reducing material) and lead to softer papers. While debonding agents can cause problems, Orarian et al discloses adding softening or debonding agents to the tissues (col 2, lines 20-39; col 7, lines 12-16).

The art of Sheppard et al, Orarian et al and the instant invention is analogous as pertaining to water-dispersible paper products. Absent evidence of special properties derived therefrom, it would have been obvious to one of ordinary skill in the art at the time of the invention to use any of the claimed strength agents in the product of Sheppard et al in view of the instant disclosure or Orarian et al as functionally equivalent, well known water-soluble or water-dispersible strength agents. The paper product made thereby will have the claimed wet strength because, where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent. It would

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also have been obvious to add debonding or softening agents as a typical additive to make the paper product feel softer when applied to the skin.

Claims 16 is rejected under 35 U.S.C. 103(a) as unpatentable over Sheppard et al in view of the instant disclosure or Orarian et al and evidenced by Drelich et al and further in view of Champaigne Jr. et al (3616797)

Sheppard et al discloses an alternative embodiment, further described in Champaigne Jr. et al, wherein a nonwoven fiber web is bonded by a water-soluble adhesive (dispersible region) and overprinted with a water-insoluble adhesive in a predetermined pattern of spaced segments (strength regions) (col 3, line 64 to col 4, line 9). Thus a web comprising strength regions having strength agent in an amount relatively more than in the dispersible regions is disclosed.

Champaigne Jr. et al discloses the water-dispersible paper product described by Sheppard et al in the previous paragraph. The product comprises a fibrous wrapper and an absorbent layer or layers. The weight of the wrapper is 14 g/sq. yard. The water-soluble binder is polyvinyl alcohol or other water-soluble or water-dispersible binder, including polyvinyl methylether, glycol. cellulose, cellulose glycolate, methyl cellulose and the like. The water-insoluble binder include polyolefins, polyamides, cellulose acetates acrylates, lattices and the like. The water-insoluble binder is applied in rows of spaced linear segments. The segments of adjacent rows are disposed alternately, resembling courses of bricks, thus forming a grid of linear areas (Abs; col 1, line 59-col 2, line 56; col 2, lines 27-57; col 3, lines 45-56; col 4, lines 24-53).

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The art of Sheppard et al, Orarian et al, Champaigne Jr. et al and the instant invention is analogous as pertaining to water-dispersible paper products. It would have been obvious at the time of the invention to one of ordinary skill in the art to provide a water dispersible strength agent in the dispersible regions and to further print a second strength agent in a pattern over the web to create strength regions having additional binder in the paper of Sheppard et al in view of the instant disclosure or Orarian et al and evidenced by Drelich et al and further in view of Champaigne Jr. et al to provide additional strength to the paper product while in use.

Claims 6, 14 and 22 are rejected under 35 U.S.C. 103(a) as unpatentable over Sheppard et al in view of the instant disclosure or Orarian et al and evidenced by Drelich et al and further in view of Srinivasan et al (3913579).

Sheppard et al and Orarian et al do not disclose a strength agent on a second surface or a strength agent between a first and second substrate.

Srinivasan et al discloses a fibrous paper product comprising a flushable absorbent pad (second fibrous substrate) and an extremely flushable nonwoven fibrous cover (first fibrous substrate) bonded with a water-soluble resinous binder. The cover is reinforced with hot melt adhesive in spaced discrete lines in generally rectangular zones that cover approximately 30% of the total area of the cover to increase wet strength. The cover is readily disintegratable in a conventional toilet after soaking in excess water (Abs; col 1, lines 37-52; col 2, lines 16-20). The hot melt adhesive is applied to the inside of the cover so as to not adversely affect the softness and feel of the cover (col 2,

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lines 6-15). Examples of hot melt adhesives are polyolefins, polyamids, polycarbonates, polyesters, polyurethanes, polystyrenes, etc, which are nonionic strength agents (col 4, lines 1-7). Thus, a strength region is located on a second surface of the first substrate and between a first and a second substrate.

The art of Sheppard et al, Orarian et al, Srinivasan et al and the instant invention is analogous as pertaining to water-dispersible paper products. It would have been obvious at the time of the invention to one of ordinary skill in the art to further print a second strength agent in a pattern on the inside of the wrapper and create regions of additional strength in the paper of Sheppard et al in view of the instant disclosure or Orarian et al and evidenced by Drelich et al and further in view of Srinivasan et al to provide additional strength to the paper product while in use without adversely affecting the softness thereof.

Claims 6, 14, 22 and 23 are rejected under 35 U.S.C. 103(a) as unpatentable over Sheppard et al in view of the instant disclosure or Orarian et al and evidenced by Drelich et al and further in view of Costanza et al.

Sheppard et al and Orarian et al do not disclose a strength agent on a second surface, a strength agent between a first and second substrate or strength regions extending throughout at least one fibrous substrate.

The disclosure of Costanza et al is used as above,

The art of Sheppard et al, Orarian et al, Costanza et al and the instant invention is analogous as pertaining to water-dispersible paper products. It would have been

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obvious at the time of the invention to one of ordinary skill in the art to print the strength agent on the wrapper by pressing the binder into the wrapper in a nip between a pressure roll and a printing roll having projecting or recessed binder-applying portions in the product of Sheppard et al in view of the instant disclosure or Orarian et al and evidenced by Drelich et al and further in view of Costanza et al to create regions of additional strength in two surfaces and through the paper and to bind the wrapper to the absorbent layer to provide additional strength to the paper product.

Claims 7-8 are rejected under 35 U.S.C. 103(a) as unpatentable over Sheppard et al in view of the instant disclosure or Orarian et al and evidenced by Drelich et al and further in view of Sun et al (6322665).

Sheppard et al and Orarian et al do not disclose a perforated fibrous substrate.

Sun et al discloses high wet performance tissue webs comprising an anionic polymeric strength agent or binder, suitable for paper towels, toilet tissue (inherently water-dispersible), absorbent pads, feminine care pads and the like (Abs; col 2, lines 41-46; col 11, lines 13-18; col 14, lines 44-50). The strength agent is applied in a pattern such as a rectilinear grid of lines, thus creating strength regions and dispersible regions (regions having no strength agent) (col 11, lines 33-38). The uncreped webs have a basis weight of 10-80 gsm and a wet to dry strength ratio of at least 20% (col 14, lines 28-35 and 50-55). Typical physical treatments to the tissue web, before or after application of the binder, include being creped, apertured, slit, embossed or calendered (col 14, lines 38-40).

The art of Sheppard et al, Orarian et al, Sun et al and the instant invention is analogous as pertaining to water-dispersible paper products. It would have been obvious at the time of the invention to one of ordinary skill in the art to provide slits or apertures in the paper product of Sheppard et al in view of the instant disclosure or Orarian et al and evidenced by Drelich et al and further in view of Sun et al to as typical physical treatments to enhance the feel or performance thereof. It would also have been obvious to one of ordinary skill in the art that binders applied to a slit or apertured web would collect in the slits or apertures due to lowered resistance to penetration of the web at the openings.

Claim 24 is rejected under 35 U.S.C. 103(a) as unpatentable over Sheppard et al (3702610) in view of the Coscia et al (6017418) and evidenced by Drelich et al (3865775).

Coscia et al discloses that water-soluble cationic or anionic glyoxylated polyacrylamide polymers provide excellent wet and dry strength in paper products, are substantive to the fibers, cure very rapidly at standard papermaking temperatures, are stable as dry blends, and lose part of their wet strength when soaked in water for a moderate length of time, thus providing temporary wet strength for tissues (col 1, line 50 to col 2, line 43). Coscia et al also teaches that the cationic and anionic polymers can be added in the same amounts and in the same manner, the anionic polymer usually requiring a standard retention aid such as alum. The amount of addition needed is readily determinable through trial (col 7, lines 44-56).

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The art of Sheppard et al, Coscia et al and the instant invention is analogous as pertaining to water-dispersible paper products. Absent evidence of special properties derived therefrom, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an anionic or cationic glyoxylated polyacrylamide as the claimed strength agents in the product of Sheppard et al in view of the Coscia et al as functionally equivalent, water-soluble or water-dispersible strength agents. The paper product made thereby will have the claimed wet strength and dispersibility for reasons given previously.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M-F, 7:30-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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